

A SYSTEM AND METHOD FOR PERFORMING SECURE
CREDIT CARD PURCHASES

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to a system and method of performing secure credit card purchases in connection with remote commercial transactions, wherein a credit card holder does not have to reveal their credit card number to a merchant or a mechanism controlled by the merchant in order to accomplish a purchase, and wherein the merchant is still assured of the necessary credit verifications and approvals prior to authorizing and/or completing a credit card transaction, thereby increasing overall security by minimizing any access to credit card numbers without having to substantially modify or deviate from existing, accepted credit card transaction practices.

Description of the Related Art

The utilization of credit and debit cards to conduct transactions is ever increasing. This is especially the case with remote or "mail-order" transactions wherein merchants desire to be assured of a payment prior to shipping a product. For example, recent years have seen a substantial increase in the popularity of televised shopping networks to further

1 supplement the popularity of catalogue type sales. Moreover,
2 the increasing use and popularity of distributed computer
3 networks such as the internet has also contributed to the
4 dramatic increase in the number of remote commercial
5 transactions conducted every day.

6 One primary reason associated with the rapid growth of
7 remote commercial transactions is the ability of a merchant to
8 reach an almost limitless number of potential customers at a
9 substantially insignificant cost and with little or no operating
10 overhead since an actual store is not required. Additionally,
11 such sales techniques permit customers to view the products and
12 services in a greatly expanded marketplace, representing a great
13 number of vendors, without extensive travel and without
14 foregoing the privacy and convenience of their home or other
15 predetermined computer site in some cases. Simply put, a
16 telephone or like communication avenue is all that is needed to
17 place the consumer in contact with the merchant and complete the
18 transaction.

19 The vast increase in popularity of remote commercial
20 transactions conducted over the telephone or internet is further
21 facilitated by the relatively simple protocols and procedures
22 necessary to conduct such transactions. In particular, in order
23 to complete a valid transaction, a merchant need not physically
24 see the customer or the credit card, but must merely accept and
25 enter a customer's credit card account number and an expiration

1 date thereof to obtain authorization. This same convenience,
2 however, is the primary disadvantage and/or problem associated
3 with conducting commerce in the manners set forth above.
4 Specifically, there is a great reluctance on the part of the
5 customer to transmit the credit card account information,
6 including the credit card number, because of the proliferation
7 of fraud, and a well recognized lack of security directed to the
8 protection of such account information. Indeed, it has been
9 established that security and privacy concerns are realistic due
10 to the fact that credit card account data is easily readable or
11 interceptable by unauthorized parties, and can be readily used
12 for all types of remote transactions with minimal risk of being
13 physically caught. In fact, unscrupulous individuals have many
14 ways of gaining access to a consumer's legitimate remote
15 transactions and thereby obtaining the credit card information.
16 This information can be obtained from old credit card receipts
17 or even from the unauthorized notation and use of the
18 information by merchants or their employees after a legitimate
19 transaction is made. Naturally, the latter is the most
20 difficult to prevent utilizing known methods and systems unless
21 a consumer is willing to completely forego the use of a credit
22 card for purchases.

23 In the case of computerized remote transactions, as
24 messages, including account data or other confidential
25 information, move across the internet, they can easily pass

1 through numerous computers, any one of which can be utilized to
2 copy such confidential information or data, thereby leading to
3 a further risk of potential fraud when conducting such
4 transactions. Presently, some companies currently seek to
5 address such security and privacy concerns by the employment of
6 encryption programs and techniques. To this end there is an
7 extensive facility associated with both public and private
8 encryption schemes being deployed in order to guard the private
9 or secured information being transmitted across the internet or
10 like world wide networks. Unfortunately, however, even with
11 such encryption techniques, the account information must usually
12 still ultimately be transmitted to a third party who did not
13 previously have access to that information previously. Even
14 some more sophisticated systems which seek to interpose a
15 separate computer or encryption entity between the consumer and
16 the merchant so as to obtain authorization and forward it to the
17 merchant, that information must still be made available to
18 and/or transmitted to that third party, thereby leaving open an
19 avenue for fraud or theft. Further, such encryption techniques,
20 even if minimally effective for computerized remote
21 transactions, are not truly useable for other conventional types
22 of remote transactions, or even normal in person transactions.

23 Based on the above, there is an obvious need in the field
24 of art associated with remote commercial transactions for a
25 system and method of performing secure credit card purchases of

1 goods and services which truly reduces the risk of potential
2 fraud and theft by eliminating outside access to a consumer's
3 private credit card information without requiring complex
4 encryption equipment or significantly altering the ease and
5 convenience of current transaction techniques. Further, such a
6 system and method should also be effective for use in
7 conventional, "in person" transactions as well, thereby
8 providing an added measure of security and minimizing the
9 hazards associated with the passing on of account information by
10 unscrupulous merchants. Also, such a system should provide
11 limits to potential loss or liability in a manner which does not
12 impede the transaction.

13 14 Summary of the Invention

15 The present invention is directed towards a system and
16 method of performing secure credit card purchases, wherein
17 payment for goods or services purchased is efficiently
18 accomplished while eliminating the necessity of disclosure or
19 dissemination of a consumers specific credit card number or
20 other account data which the customer or other individual may
21 wish to maintain in confidence. The system and method of the
22 present invention incorporates the advantage of consummating the
23 purchase by the customer through the selection of any one of a
24 plurality of predetermined payment categories. Collectively,
25 the payment categories represent a variety of methods for

1 accomplishing payment for a fixed transaction, a multiple
2 transaction and/or a repeating transaction.

3 One embodiment of the system and method of the present
4 invention comprises a customer receiving information, including
5 specific data necessary for the purchase of any given product or
6 service. This promotional information generated by the merchant
7 can be received by any of a plurality of conventional means
8 including advertisements, catalogues, computer network
9 connections, direct person to person customer and merchant
10 contact, telephone solicitation, mail orders, television sales,
11 etc. Once the customer has identified the product or services
12 which he/she wishes to purchase, the customer contacts and
13 supplies a custodial authorizing entity with the requisite
14 information concerning both the identification of a specific
15 credit card or debit card account and a requested payment
16 category. Additionally, security against unauthorized use of
17 confidential account data may also preferably include
18 information relating to the merchant's identification and/or
19 location.

20 The custodial authorizing entity is preferably defined as
21 the entity which has or has been assigned the custodial
22 responsibility for the financial account data of a customer's
23 credit card account, including a previous knowledge of the
24 credit card number and other information such as credit limits,
25 payment history, available credit amounts and other information

1 which will determine the status of a given credit card account
2 in terms of authorizing a requested payment for a current
3 purchase.

4 As part of the security system for accomplishing a
5 commercial transaction utilizing credit card or debit card
6 payment, the custodial authorizing entity includes sufficient
7 facilities, preferably including a processing computer or like
8 applicable hardware for the generation of an exclusive
9 transaction code. The transaction code is to be used in
10 substitution for the credit card number and when utilized as
11 authorized, will issue the merchant a credit approval, and will
12 accomplish payment for the goods or services desired in the
13 normal fashion normally associated with a credit or debit card
14 transaction, without the publication or dissemination of an
15 identifying credit card number for a specific customer's account
16 to any entity that is not already aware of that information.

17 Further, a feature of the transaction code is its ability
18 to indicate any one of preferably a plurality of predetermined
19 payment categories which may be either requested by the customer
20 or automatically chosen by the custodial authorizing entity
21 based on the type of account or the type of purchase or other
22 commercial transaction involved. Each of the payment categories
23 are reflective of a different type of payment desired or
24 required to consummate the intended purchase. More
25 specifically, the plurality of payment categories may include a



1 single transaction involving a specific dollar amount for a
2 purchase within a specific time period, such as twenty four
3 hours, during which authorization of the purchase remains valid.
4 Alternately, a single transaction may be involved wherein a
5 maximum limit or a dollar amount is determined above which the
6 purchase will become invalidated and further wherein a fixed
7 period of time is preferably established for maintaining
8 authorization of such purchase. Other alternatives would
9 involve one or more of the categories coded to define multiple
10 transactions involving a maximum dollar amount for purchases, as
11 well as a fixed period of time for authorization of such
12 purchases, and/or a repeating transaction wherein payments may
13 be automatically accessed by a merchant over a predetermined or
14 unspecified time interval (such as every thirty days) for a
15 specific dollar amount or a maximum dollar amount limit. Also,
16 limits solely as to a specific merchant or a given time period
17 can be effectively established for which the transaction code is
18 valid.

19 A further feature of the present invention to be described
20 in greater details hereinafter, is the requirement that the
21 transaction code, once received by the customer is transmitted
22 to the merchant by the customer or a person specifically
23 authorized by the customer. Only minimal contact by the
24 merchant and the custodial authorizing entity is provided for
25 purposes of the merchant verifying the validity of the

1 transaction code utilizing a conventional process electronically
2 or otherwise similar to the verification of a credit card number
3 normally offered to a merchant for the purchase of goods or
4 services. There is, therefore, no disclosure, publication or
5 other dissemination of the specific credit card number of a
6 given customer account beyond those entities who already know
7 the information, and the transaction code is transmitted
8 exclusively to the customer by the custodial authorizing entity
9 who has the ability to better identify whether the customer is
10 properly authorized to use the account. Moreover, the
11 transaction code, once given out by the customer, only has a
12 limited usefulness, thereby limiting the risk of misuse and
13 minimizing the potential losses to be experienced by the credit
14 card company and/or the account holder.

15 Accordingly, it is an object of the present invention to
16 provide a system and attendant method for performing remote
17 commercial transactions utilizing credit cards, which maximizes
18 the security of the transaction and limits the potential
19 liability to be experienced from a fraudulent transaction.

20 Yet another object of the present invention is to provide
21 a secure system and method for establishing credit card
22 purchases which eliminate the disclosure or dissemination of the
23 actual credit card number to anyone other than a custodial
24 authorizing entity which normally has custodial responsibilities
25 for account information including the previously established

1 credit card number.

2 It is another object of the present invention to provide a
3 system and method of establishing secure credit card purchases
4 through the generation of a transaction code which renders it
5 extremely difficult or impossible to access or infiltrate a
6 customer's credit card account by unauthorized means.

7 It is yet another object of the present invention to
8 provide a secure method of completing a remote commercial
9 transaction which eliminates the need to convey actual account
10 information to a merchant, but which allows the merchant to
11 conduct a normal verification of information needed to
12 consummate a given purchase.

13 It is also an object of the present invention to provide a
14 system and attendant method of accomplishing secure credit card
15 purchases which eliminates the need to disclose or disseminate
16 a given credit card number while providing the customer with the
17 versatility of choosing any one of a plurality of predetermined
18 payment categories.

19 It is yet another feature of the present invention to
20 provide a system and method of accomplishing secure credit card
21 payments having the versatility of allowing the customer to
22 select any one of a plurality of payment categories which are
23 indicative of a variance in the amount of a purchase as well as
24 the time in which authorization for such payment is valid.

25 These and other objects, features and advantages of the

1 present invention will become more clear when the drawings as
2 well as the detailed description are taken into consideration.

3
4 Brief Description of the Drawings

5 For a fuller understanding of the nature of the present
6 invention, reference should be had to the following detailed
7 description taken in connection with the accompanying drawings
8 in which:

9 Figure 1 is a schematic representation of a flow chart
10 showing various steps involved in the performance of the system
11 and method of the present invention for the secure credit card
12 purchasing;

13 Figure 2 is a schematic representation similar to that of
14 Figure 1 wherein customer to merchant contact is accomplished by
15 conventional facilities such as television; and

16 Figure 3 is a schematic representation similar that of
17 Figure 2 wherein customer to merchant contact is established
18 either by phone or in person.

19 Like reference numerals refer to like parts throughout the
20 several views of the drawings.

21
22 Detailed Description of the Preferred Embodiment

23 As shown in the accompanying Figures, the present invention
24 is directed towards a system and method for accomplishing secure
25 credit card purchases. Moreover, these purchases can be "in

1 person", but preferably include remote commercial transactions
2 such as mail order, purchases over the internet, television
3 solicitations, telephone solicitations, etc. Security is
4 establish by virtue of the elimination of the need to disclose
5 an active credit card number and expiration date to the merchant
6 or any other party other than the original credit card company,
7 issuing bank or like financial institution which already has
8 custodial responsibilities for the financial or account data
9 associated with a given customer's credit card account.

10 More specifically and with reference to Figure 1 the system
11 as well as an attendant method is preferably instigated by the
12 customer viewing a product, identifying a desired amount for a
13 transaction and/or receiving promotional information as at 10,
14 either in person or by any of the electronic or more
15 conventional techniques which will be described in greater
16 detail with reference to Figures 2 through 3. Once the customer
17 reviews the product or promotional information and has
18 sufficient information, such as including price, product or
19 service identification, payment requirement, etc., regarding the
20 remote commercial transaction to be conducted, the customer
21 contacts, either by computer, telephone or in person, a
22 custodial authorizing entity as at 12. The custodial
23 authorizing entity may herein be defined as comprising that
24 entity or institution which has or has been designated by the
25 entity which has custodial responsibility for the financial data

1 and security of a given credit card account of a customer. As
2 set forth above such custodial authorizing entity can be
3 represented by the credit card company issuing a credit card to
4 a given customer or alternately can be represented by a bank or
5 other financial institution serving to sponsor a credit card or
6 debit card to the extent of processing the debits and credit
7 associated therewith. The authorizing entity's custodial
8 responsibilities of course includes the previous knowledge
9 and/or storage of the credit card number serving to identify a
10 specific customer's credit card account. Once contacted, the
11 customer then supplies appropriate identification data to inform
12 the custodial authorizing entity of a specific customer's credit
13 card account as at 14. In addition, the customer will supply
14 the custodial authorizing entity with additional required
15 information needed to consummate the purchase as well as ensure
16 the security of the account in order to prevent its unauthorized
17 use. Such additional information may preferably include the
18 identification of the merchant or merchants involved, when such
19 information is deemed necessary, and a requested one of a
20 plurality of predetermined payment categories to facilitate
21 consummation of the purchase of the products or services
22 desired. Such predetermined plurality of payment categories
23 will be discussed in greater detail hereinafter.

24 Once the appropriate information has been received from the
25 customer as indicated at 16, the custodial authorizing entity

1 verifies the credit card status and account identification of
2 the customer to determine the viability of the account in terms
3 of dollar amount limits, payment history, available credit
4 balance, etc. If the accessed credit card account is not in
5 good standing, the custodial authorizing entity will permanently
6 or temporarily terminate the transaction as at 18 and/or
7 communicate to the customer directly as at 18' by any applicable
8 means for purposes of informing the customer of the unacceptable
9 status of the accessed credit card account. If the credit card
10 account is in good standing, based at least in part on the
11 requested payment category, (amount of payment), the custodial
12 authorizing entity generates a transaction code as at 20. The
13 transaction code is used in substitution for the specific credit
14 card number which would normally identify a customer's credit
15 card account and would allow access thereto by any entity having
16 possession of the credit card number whether or not such
17 possession was authorized or unauthorized. More specifically,
18 the transaction code is pre-coded to be indicative of a specific
19 credit card account, preferably a merchant or merchants
20 identification and a designated payment category, selected from
21 the plurality of predetermined payment categories as set forth
22 above. Once generated, the transaction code is communicated
23 exclusively to the authorized and verified customer by the
24 custodial authorizing entity as at 22, wherein the system and
25 method of the present invention preferably restricts

15

1 communication between the custodial authorizing entity and the
2 merchant except to conduct a normal verification as will be
3 explained.

4 *Sub C* The verified customer thereafter and preferably within a
5 time limit to be determined by the customer and pre-coded in
6 association with the transaction code, will directly or through
7 an authorized representative communicate the transaction code to
8 the merchant as at 24. The system and method of the preferred
9 embodiment of the present invention contemplates that only the
10 verified customer will transmit the generated transaction code
11 to the merchant in the case of a remote commercial transaction,
12 thereby limiting knowledge of the transaction code to those
13 parties having a need to know. Of course, however, as the
14 transaction code will generally have a limited value as defined
15 by the verified customer when obtained, the verified customer
16 may designate an agent or other entity to act as the customer on
17 his/her behalf, with the amount of potential liability to be
18 experienced by such a transaction to be limited to the amount
19 defined by the verified customer when obtaining the transaction
20 code.

21 At this point the purchase is consummated at least from the
22 customer standpoint in that the customer has previously
23 established the acceptable status of the account. Therefore the
24 customer feels free to disclose the transaction code to the
25 merchant or merchants instead of the actual credit card number

1 as at 22, 24 and is relatively unconcerned if the transaction
2 code is published or otherwise disseminated to unauthorized
3 entities. In a preferred embodiment wherein a merchant
4 identifier is pre-coded in association with the transaction
5 code, the pre-coding of the transaction code will prohibit an
6 unauthorized use due at least in part to the fact that the
7 merchant is specifically identified and any attempt to use the
8 transaction code other than by the identified merchant will be
9 prohibited. In addition, the merchant is prevented from
10 "overcharging" or "extending" the purchase by fixing the dollar
11 amount to satisfy the specific cost or limit of the purchase as
12 well as a specific time limit or time parameters in which the
13 authorization for payment is valid. Such information, as set
14 forth above, is communicated by the requested and subsequently
15 designated payment category as set forth above. Restricted
16 communication between the merchant and the custodial authorizing
17 entity as at 26 is permitted exclusively for purposes of
18 verification of the transaction code in a manner, which may
19 utilize, at least to some extent, conventional facilities for
20 the verification of a credit card number by most merchants or
21 like commercial establishments. As a result, the merchant also
22 has a desired verification as to the validity of a transaction
23 and can effectively make arrangements to be paid by the credit
24 card company.

25 If for some reason the transaction code is refused

1 verification, the customer may be informed directly by the
 2 merchant as at 28 and or the transaction may be terminated as at
 3 30. Assuming verification of the transaction code by the
 4 custodial authorizing entity, the merchant proceeds to
 5 consummate the purchase and send the order, as at 32, in the
 6 case of a remote commercial transaction.

7 Figures 3 and 4 are representative of the versatility of
 8 the system and method of the present invention wherein the
 9 customer 54 may receive the aforementioned promotional
 10 information from the merchant 56 by any appropriate means such
 11 as television solicitation as at 58, phone solicitation as at 60
 12 and/or personal solicitation as at 62. Once the customer
 13 receives the promotional information, which may include the
 14 viewing of the product itself, or in advance if a general
 15 estimate as to the ultimate cost of an anticipate purchase(s)
 16 can be made prior to viewing promotional information, the
 17 customer contacts the custodial authorizing entity 64 by any
 18 appropriate electronic or conventional facilities such as direct
 19 phone to phone contact as at 66 and 66' or direct computer
 20 contact as at 42', 45'. Once the customer's authorization is
 21 confirmed, details of the anticipated transaction are
 22 established so as to determine a payment category, and the a
 23 transaction code is issued to the customer. The customer,
 24 either directly or through a representative, can then utilize
 25 the transaction code to consummate a transaction within the

1 defined parameters of the payment category. Moreover, the
2 merchant 56, through a conventional, yet restricted
3 communication with the custodial authorizing entity 64 by any of
4 a plurality of conventional or electronic methods using computer
5 to computer linking as at 44', 45' or by telephone transmission
6 as at 56', 66', can obtain a verification and subsequent payment
7 utilizing the transaction code only.

8 As emphasized above, an important feature of the present
9 invention is the ability of the customer to request a desired or
10 a required payment category and the ability of the custodial
11 authorizing entity 64 and/or a processing computer 45 of the
12 custodial authorizing entity to issue a transaction code in
13 accordance with the payment category. The payment categories,
14 may be collectively defined as a variety of different types of
15 transactions. Such transactions may include a single
16 transaction for a specific amount of a purchase to be
17 consummated. Alternatively, the payment category may include a
18 single transaction defined by a single purchase having a maximum
19 limit amount, wherein the specific or precise cost of the
20 purchase has not been determined for a variety of reasons, and
21 as such, the customer desires to set a maximum amount for which
22 the single transaction may be made. Accordingly, with such a
23 payment category, the exact amount may not be known in advance,
24 but the customer is assured of not paying over the specifically
25 designated maximum limit. In addition, the transactions are

1 preferably, but not necessarily, authorized to be conducted only
2 over a fixed life period of time, such as within twenty four
3 hours, thereby ensuring that an outstanding transaction code
4 does not remain valid if not used as generally intended. This
5 limited time period can, of course be varied or omitted
6 depending upon the wishes of the customer and/or the policies of
7 the custodial authorizing entity. Also, these or any other
8 payment category transactions may include a specific merchant
9 identification to further restrict use of the transaction code.

10 The payment category may also include a multi-transaction
11 authorization wherein more than one purchase may be made from
12 one or a plurality of different merchants, each of which may or
13 may not be identified by the customer and pre-coded in
14 association with the transaction code, and wherein a total cost
15 of the plurality of purchases may not exceed a maximum limit
16 amount. This transaction can also be limited to having to take
17 place within a predetermined, designated fixed life span, such
18 as but not limited to twenty four hours. Accordingly, in some
19 instances wherein a customer, or an agent of the customer, such
20 as a child, guardian, or care giver, must make a number of
21 transactions or purchases which are authorized by the customer,
22 the customer may designate a maximum amount which can be spent
23 utilizing a particular transaction code within a predetermined
24 period of time, and/or can designate that only one merchant,
25 whether designated or not, can use the transaction code.

1 As yet another alternative, the payment category may
2 include a repeating transaction for a specific amount to be paid
3 in each of a fixed number of intervals. For example, the
4 customer may wish to join a gym or receive services or products
5 over a fixed number of payment intervals, such as every thirty
6 days. Accordingly, the merchant will be authorized to charge
7 the credit card account designated by the corresponding
8 transaction code a fixed monthly payment. Similarly, a
9 repeating transaction for a stated minimum interval such as
10 every thirty days may be authorized for a specific amount for an
11 unspecified number of intervals wherein the merchant will be
12 authorized to continuously obtain payment on a "monthly" basis
13 until the customer decides to cancel such authorization. Also,
14 a more open ended transaction wherein charges may be performed
15 until cancelled and with or without other limiting criteria may
16 also be provided.

17 Since many modifications, variations and changes in detail
18 can be made to the described preferred embodiment of the
19 invention, it is intended that all matters in the foregoing
20 description and shown in the accompanying drawings be
21 interpreted as illustrative and not in a limiting sense. Thus,
22 the scope of the invention should be determined by the appended
23 claims and their legal equivalents.

24 Now that the invention has been described,